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Vice City Virtue

Moral Issues in Digital Game Play

Karolien Poels and Steven Malliet (eds.)

Acco Leuven / Den Haag

7 Users' Experiential and Rational Processing of Virtual Violence

Tilo Hartmann

Introduction

Virtual violence, defined as any user behaviour intended to do harm to virtual characters that apparently try to avoid the harm-doing, is an integral feature of many popular video games (Smith, Lachlan, & Tamborini, 2003) and virtual environments (Wolfendale, 2007). But how do users experience virtual violence? Whereas many studies in disciplines like media psychology and communication science examined the effects of virtual violence on users' aggression (Anderson et al., 2010), researchers only recently began to study how users subjectively experience their own violent actions in a video game (Klimmt, Schmid, Nosper, Hartmann & Vorderer, 2006; Hartmann & Vorderer, 2010; Hartmann, Toz, & Brandon, 2010; Whitty, Young & Goodings, 2011). Reviewing the few existing studies reveals a paradox. On the one hand, video game users claim that they were constantly aware that the depicted violence is not real (Klimmt et al., 2006). Accordingly, users claim to be aware of the artificial nature of virtual characters and of the fact that they actually do not engage in any harm-doing as video game characters are no living beings that could be harmed. From this perspective, virtual violence appears morally insignificant to users. On the other hand, even many avid gamers admit that they would feel bad if they did certain things in a video game, e.g., incidentally shooting a virtual child or committing torture or rape (Klimmt et al., 2006; Whitty et al., 2011). This suggests that virtual violence is morally more significant than the claim "I know it is not real" may suggest. It seems that – under certain

circumstances – virtual violence feels morally wrong to users, even if they know that the violence is not real.

In the present chapter I will approach this paradox and the question about how users experience virtual violence from a media-psychological perspective. I will try to integrate the few existing empirical insights into a more general theoretical conceptualization of how users experience virtual violence. More specifically, I will draw on cognitive-experiential self-theory (Epstein, 1994; Epstein & Pacini, 1999; see also Berger, 2007; Lee, 2010a,b; Shapiro & Lang, 1991), a psychological dual process theory, and argue that users' experience of virtual violence may result from two parallel modes of processing, namely an experiential (or automatic) and a rational (or reflective) mode. As an outcome of experiential processing, the depicted violence may feel real to users, although they may simultaneously know, based on parallel rational processing, that it is not. Users may experience virtual violence as morally more significant the more they process the game experientially rather than rationally. For example, users may intuitively feel bad about shooting an innocent civilian in a video game if they processed their action primarily in an experiential mode, but may consider the same action morally insignificant if they primarily processed it in a rational mode. I will argue that experiential processing may usually dominate over rational processing during video game exposure. Accordingly, at least temporarily, users may tend to experience video game characters as "actually existing" and virtual violence as "really happening", and, thus, they may experience both as morally significant. I conclude the chapter by outlining moral disengagement mechanisms that may explain why users may enjoy this seemingly real violence rather than feeling bad about it.

The "Apparent Reality" and Moral Significance of Virtual Violence

Media present symbolic representations of real artefacts, based on human-made technology. Accordingly, media present illusions. While experiencing media content, users may vary between acceptance and denial of these illusions (Cupchik, 2002). Vorderer (1993), for example, distinguishes between an (emotionally) involved and an analytic reception mode in the context of television exposure. In an analytical mode, users tend to critically discard the illusion and perceive it as artificial, thus being emotionally rather unaffected by the depicted events. Similarly, Oatley (1994, p. 47) distinguishes between internal and external emotions in exposure to narratives, and Tan (1994) between fiction emotions and artefact emotions in film exposure. Focusing on effects, Lombard (1995, see also Lee, 2010a,b) argues that users respond directly or indirectly to portrayals of characters, for example on television. Direct responses are indicated by the fact that users react to

mediated events, objects, and people "in some of the same ways that they react to nonmediated events, objects, and people" (p. 289). Likewise, video gamer users may temporarily believe in or deny the illusion of virtual violence.

If a virtual video game character turns his face into the users' direction, they may feel like being watched by an existing living being – or they may simply perceive a 'dead object', consisting of animated pixels on the screen. This genuine ambiguity of media portrayals, and users' fluctuations between believing in and denying media-induced illusions, seems important for an understanding of how users morally judge and experience virtual violence. One may argue that violence does not exist in the virtual world, as virtual characters are not living beings that can be harmed. Accordingly, there are no victims of virtual violence (except for the users; McCormick, 2001). The more users deny the media illusion and experience video game characters as what they actually are, namely "pixels on the screen" or "animated objects", the more they may consider their violent action morally insignificant. In contrast, the more users believe in the media illusion and tend to perceive video game characters as social beings rather than "pixels on the screen", they more they may be prone to consider their violent action morally significant. Accordingly, the moral significance of virtual violence seems to be inherently linked to the way users experience it as real rather than artificial. In the following section, I am offering a suggestion about how users may derive realism judgments about virtual violence based on cognitive-experiential self-theory.

Rational and Experiential Perceptions of Virtual Violence

Cognitive-experiential self-theory (CEST; Epstein, 1994, Epstein & Pacini, 1999) is a psychological dual-process theory that emerged from a connection of psycho-analytical ideas to concepts established in modern cognitive psychology. In line with other and highly similar dual-process approaches, CEST argues that human-beings are equipped with two distinct information processing systems: an experiential (automatic, intuitive) system and a rational (reflective, cognitive) systems. Both systems operate in parallel and are interactive. The same idea of two processing modes has also been expressed and empirically substantiated in other psychological dual-process theories, for example in the distinction of System 1 vs. System 2 processing (e.g., Stanovich & West, 2000), rule-based vs. associative processing (Sloman, 2002; Smith & DeCoster, 2000), or reflective vs. impulsive processing (Deutsch & Strack, 2006). CEST is compatible with these other dual-process approaches (Epstein & Pacini, 1999), but it holds the advantage that it also relates to how people personally construe reality. Accordingly, CEST seems a promising theoretical basis to outline the way video game users derive reality judgments of their own violent actions.

According to CEST, the rational system builds on a person's logical rules and inferences. It allows for deliberative and analytical processing of information. It is capable of high levels of abstraction and operates primarily in the medium of language. Compared to the experiential system, it processes information in a rather slow and laborious way. Accordingly, its activation requires sufficient time and motivation (Smith & deCoster, 2002). Within the rational system, reality is encoded in abstract symbols or language-based concepts. Truth is derived from logical inferences that are made on the basis of these abstract concepts. For example, based on the rational system, users may ponder the plausibility or likelihood that people or events displayed in a video game are "currently happening in their living room", or, at least, "could happen in real life". Based on this analytical evaluation, they may perceive the game as realistic or unrealistic (Shapiro, 2008).

The evolutionary older experiential system, in contrast, operates on automatic processing. The experiential system processes information continuously, and in a quick, effortless, and often unconscious way. In contrast to the rational system, the experiential system dwells on associative rather than logical connections. The perceived stimulus pattern of an object or event (e.g., the visual and auditory sensations triggered by a depiction of a virtual person) is compared to memorized stimulus patterns or images (Smith & DeCoster, 2002); sufficiently associated stimulus patterns lead to recognition of an object or event. Due to this associative functioning, sufficiently *familiar* objects and events tend to be automatically marked as true by the experiential system (Sloman, 2002). Something appears real, because it seems true to the senses. Accordingly, in the experiential system, "experiencing is believing" (Epstein & Pacini, 1999, p. 463).

The experiential system is strongly associated with affect, gut feelings (Haidt, 2001) or subtle feelings like "vibes" (Epstein & Pacini, 1999, p. 463). Accordingly, while in an experiential mode, people may be prone to refer to their reality experience as a feeling (rather than knowledge): "something feels real", even if the feeling seems irrational (Schubert, 2009; Slater et al., 2006). This type of reality has been traditionally examined in Presence research (Lee, 2004). If people process media content that appropriately mimics the sensory information of related real-world objects or characters within their experiential system, they may feel that these displayed objects and characters are real (Lombard, 1995). In this case, the media technology "induces" an apparent reality, i.e., users feel that the depicted events are really happening and depicted objects or people are really physically existing in their surrounding (Lee, 2004; Zillmann, 2006, Cupchick, 2011). If processed by the experiential system, a virtual representation of a human-being in a video game that looks and sounds sufficiently similar to a real human being may feel real to users. Likewise, violent video game action that appropriately mimics the sensory information of real-world violence may feel real to users, as if it would be actually happening.

Because both the experiential and the rational system work in parallel, paradoxical experiences are possible (Epstein, Lipson, Holstein, & Huh, 1992; Epstein & Pacini, 2004; Sloman, 2002; Sanchez-Vives & Slater, 2005). For example, (based on experiential processing) users of a virtual reality environment may *feel* that they do pain to a virtual character, despite simultaneously *knowing* (based on rational processing) that doing pain to non-living character is impossible (Slater et al., 2006). In a study by Hartmann et al. (2010), empathetic participants felt guilty about shooting characters under unjustified conditions, although it is highly unlikely they completely forgot that they just shot non-existing characters. In general, (based on experiential processing) media users may feel that depicted characters, objects, events, and actions are real, although (based on rational processing) they know they are not.

Experiential Perceptions of Virtual Violence: "It Feels Real!"

Although both modes may work in parallel, several arguments speak for the notion that the experiential mode dominates during video game exposure. First, „emotional arousal and relevant experience are considered to shift the balance of influence in the direction of the experiential system" (Epstein, 1994, p. 715). Most video games – and violent games in particular – feature fast-paced and arousing action. Violent video games also offer challenges that regular users find relevant and that require their full attention. Violent video game play likely occupies the cognitive resources of users. Accordingly, it is likely that the experiential mode dominates during exposure to violent video games.

Second, and in addition to these cognitive reasons, users may also be motivated to let experiential processing dominate their video game experience. While processing a video game within the experiential system, users may experience an apparent reality that unfolds based on appropriate sensory stimulation of the video game. For example, they may feel like being spatially present in the sceneries depicted by the video game, and may feel as if the displayed characters were really socially present (Tamborini & Skalski, 2006). Studies suggest that such illusionary experiences of an "apparent reality" are enjoyable (e.g., Skalski, Lange, & Tamborini, 2006). Similarly, in an interview study by Soto, Hartmann, and Prins (2010), most users agreed that it would be less enjoyable to shoot artificial objects in a video game in place of humanlike soldiers or seemingly real portrayals of other living beings. This finding suggests that video game enjoyment, and even the enjoyment of virtual violence, benefits from the feeling that "this is real". The social illusion that may result from processing of appropriately animated virtual characters in an experiential mode seems to play an important part in the enjoyment of video games. Accordingly, users may be also motivated not to interfere in their experiential processing of video game content in order to cherish the resulting illusions.

However, even if cognitive and motivational reasons may suggest that users primarily process virtual violence in an experiential mode, it still requires a natural and accurate depiction of violence and of social characters to give rise to a feeling that "this is actually happening". Accordingly, users may only feel that the depicted violence is real to the extent a video game provides naturalistic sensory stimulations. Users may experientially process old arcade games like Space Invaders without a feeling that "this is actually happening", because the display of both characters and violence does not naturally mimic the sensory information of violence against others. Contemporary violent video games, in contrast, depict characters and violent actions in much more natural ways. Many contemporary games display the violent action in a three-dimensional world from a first-person perspective. In contrast to older arcade games, today's virtual characters, events, and objects are displayed in more accurate visual, auditory – and sometimes even haptical – ways. Contemporary designs of computer game characters also apply cues that researchers have suggested provoke automatic social responses (Holtgraves et al., 2007; Morrison & Ziemke, 2005; Shapiro, Peña & Hancock, 2006). Such cues include eye-gazing, biological motion, display of natural facial activity, display of emotions, as well as breathing, natural vocal tones, and display of intelligence.

Taken together, the display of today's video game characters resembles a much more natural sensory experience than the artificial sprites depicted in old arcade games like Space Invaders.[1] Accordingly, if users primarily process contemporary video game characters in their experiential system, they may tend to feel like if these characters would actually exist. Indeed, several studies suggest that users tend to automatically perceive and treat contemporary virtual characters, including video game characters, as social beings (Holtgraves et al., 2007; Lee, 2010a). Similarly, when engaging in virtual violence, users may also feel like engaging in "actually happening" violence against really existing characters.

Rational Perceptions of Virtual Violence: "I Know It's Not Real"!

However, except for very young children and people with serious disabilities, most people are able to cognitively distinguish illusions generated by media technology from the real world (Shapiro, 2008). For example, although many people may perceive a virtual face whose eyes are starring at them as a face that is starring at them, they do not forget that the face is virtual and that the sensation that somebody is starring at them is illusionary. But how is this knowledge generated and how does it affect the feeling of an apparent reality?

In light of the present approach one may argue that users recognize the genuine artificiality of seemingly real media depictions if they engage in abstract thinking, which is typical for rational processing. In the associatively operating experiential mode, things are perceived as real, because they feel real. In

contrast, in the logically operating rational mode, things are perceived as real if people know that they are real, because plausible abstract arguments speak for their existence (e.g., a high likelihood, Shapiro, 2008). In general, I assume that the mediated nature of sensations induced by media technology becomes apparent if the rational processing mode dominates users' experience. Whereas the experiential mode may be blind towards the artificiality of (sufficiently natural) media-generated illusions, the rational mode may allow detecting their illusionary character. Accordingly, if processing a video game within a rational mode, users may be able to look 'behind the scenes'. They may recognize that depicted events that seemed real were just artificial and that people that seemed to talk to them were simply animated sprites on a screen. Taken together, within a rational mode, users may be prone to recognize that the video game they play "is just a game" or "just not real".

Many users of violent video games claim that they are constantly aware while playing that "this is just a game" (Soto et al., 2010; Ladas, 2002). While this may certainly be true, I think it is unlikely that the rational processing *dominates* during video game exposure for three reasons. First, rational processing is comparatively laborious (Epstein, 1994). It seems unlikely that users are motivated to continually engage in rational processing while pursuing leisure time activities like video game playing (Reinecke, 2009a,b). Second, video game play may effectively engage users' cognitive resources. Thus, users may be less prone to engage in rational thinking, because it is also comparatively cognitively demanding. Third, the apparent reality that results from the experiential processing of a video game that features appropriate sensory stimulation is enjoyable. A continuous rational scrutinizing – or rational disbelief – of the apparent reality created by a video game may effectively abolish it (Hartmann et al., 2010; Hartmann & Vorderer, 2010). A heightened awareness of the genuine artificiality of the video game may lead to psychological detachment (Cupchik, 2002) and effectively diminish most affective responses, including enjoyment. In sum, it seems unlikely that users are capable and motivated to primarily process video games within a rational mode while playing.

Nevertheless, it seems plausible that the rational processing mode plays an important role in users' video game experience. Users may engage in parallel experiential and rational processing throughout exposure. I argued that experiential processing may foster a feeling that the ongoing action is real and may thus decrease psychical distance (Cupchik, 2011).[2] Rational processing, in contrast, may heighten users' awareness that 'this is just a game' and thus increase psychical distance. Although empirical evidence is scarce, users' default mode may be to abandon themselves to the apparent reality of a video game, while keeping the knowledge that 'this is not real' activated in memory, albeit on a minimum level. The specific appeal of virtual violence, but also of media illusions in general, may depend on the right balance of an intense feeling that "this is real" and a less

intense, albeit sufficient knowledge, that it is not (Cupchik, 2011). For example, when starting a video game, players may rationally define the situation as a 'game situation'. This knowledge may frame the overall exposure situation and remain activated as 'background knowledge' during game play. Maybe video game users relate to this background knowledge if they claim in in-depth interviews that they are constantly aware while playing that 'this is not real' (Soto et al., 2010). Indeed, it seems plausible that video game users never completely forget that they are just involved in an illusion while engaging in virtual violence. So what may be the effects of this knowledge?

First, I assume that a 'rational background' may *dampen* the automatic responses to virtual violence that result from experiential processing. For example, if users accidentally shot an innocent person in a video game, they may feel intuitively bad about it (and much more so than if they shot a character for justified reasons), but the intensity of their guilt reactions will certainly be – maybe due to the rational knowledge that 'this is just a game' – remarkably lower than if they accidentally shot a really existing innocent person (Hartmann et al., 2010).

Second, rational processing may be important in users' video game experience, because experiential processing, despite of the presumed rational background layer, may sometimes give rise to intensely aversive sensations that users wish to regulate. For example, it is a well-known coping strategy of viewers of horror movies to diminish intense fear responses by recalling that "this can't be true" (Cantor & Wilson, 1988). Similarly, users of violent video games may effectively regulate aversive responses like fear or anxiety by recalling the artificial nature of the depicted content. Users may also use this strategy to cope with aversive *moral* emotions like guilt (Klimmt et al., 2006). In general, by engaging in rational reflection, users may weaken the effects of media-induced illusions. By recalling the artificiality of media-generated illusions, the emotional significance of depicted events and persons may drop (Sheppes & Meiran, 2007) and users become psychologically detached. Thus, video game users may occasionally engage in rational processing to return to more pleasurable affective states and to maximize their entertainment experience after they felt like they did "something wrong" in the game (Schramm & Wirth, 2008).

The Genuine Moral Significance of Virtual Violence

The more users are prone to experientially process virtual violence, the more they may perceive it as "actually happening". Accordingly, the more they may deem virtual violence morally significant. Following Epstein and Pacini (1999, p. 471), "the experiential system [...] tends to respond similarly to real and imagined objects and events". Accordingly, "reactions to a visualized situation can be expected to mimic those observed in a real situation". The same may apply to visualizations in violent video games. To the extent users process (naturally depicted) virtual violence in video games within an experiential mode, they may fail to adequately perceive the artificiality of the media-generated illusion. Rather, they may be prone to intuitively perceive and respond to the depicted violence as if it was real. In this case, one would expect that users also deem their virtually violent actions morally significant.

If users tend to perceive video game characters as social beings (as suggested above), they are also prone to perceive these characters as *moral* entities that deserve proper moral treatment (Waytz, Cacioppo, & Epley, 2010). Accordingly, when incidentally shooting a realistically looking civilian in a video game, users' associative experiential processing may give rise to the feeling that they just shot an innocent social character and, therefore, did something wrong. Consequently, users may feel guilty about their virtual violent action. In general, users may tend to feel like doing harm to other characters when they engage in virtual violence. Accordingly, they may perceive and judge their violent actions as morally significant. They may feel bad about wrong actions, but okay with action they perceive to be morally sound.

Several studies support the notion that users tend to perceive virtual violence as morally significant during game-play. Klimmt et al. (2006), for example, interviewed users of violent video games. In their study, even heavy gamers could mention things they would morally regret or would not do in video games. For example, users said they would feel bad about accidentally shooting children in a video game. Similar findings were obtained in an interview study by Soto et al. (2010). In this study, most participants reported that it felt wrong to shoot sleeping soldiers in a video game that they played as a part of the study. In another interview study by Whitty, Young, and Goodings (2010, see also Whitty this volume), users reported having problems to engage in virtual activities like rape that they would also not deem acceptable in the real world. In addition, in two experiments by Hartmann et al. (2010), especially empathetic users felt guiltier if they killed virtual characters for unjustified than for justified reasons. Taken together, these findings suggest that users tend to perceive virtual violence as morally significant and, as a consequence, may feel bad about their virtual wrong-doings.

Moral Disengagement in Violent Video Games

If players are indeed prone to experientially process video games and, thus, to experience the apparent reality of a video game during exposure, if they indeed tend to perceive video game figures as social beings and intuitively deem virtual violence morally significant, why would virtual violence be still enjoyable? And why would guilt not be the most frequent response to virtual violence among users?

A general answer is that the same situational and individual factors that trigger acceptance, if not enjoyment, of real-world violence may effectively trigger acceptance and enjoyment of *virtual* violence. For example, research shows that virtual violence is more enjoyable for people that are also prone to accept or even enjoy real-world violence: people with stronger masculine gender orientation, stronger sensation-seeking traits, lower trait empathy, and stronger aggressive tendencies (Hoffner & Levine, 2005; Jansz, 2005; Hartmann et al., 2010; Moeller & Krahé, 2008). In addition, virtual violence may be enjoyable, because video games allow their users (and even those that are normally repelled by violence) to effectively *morally disengage* from their violent actions (Hartmann & Vorderer, 2010; Klimmt et al., 2006). Moral disengagement implies that actions that normally violate a person's moral standards (e.g., harm-doing) are framed in a situation in such a way that they appear appropriate or even desirable to the person (Bandura, 1990).

Moral disengagement during video game play may take place while users' process the game within an experiential or rational mode. While experiential processing dominates, users may morally disengage, because cues that are implemented in the narrative and the design of the game play frame the depicted violence as appropriate. Bandura (1990) discusses several cues that trigger moral disengagement in real-life situations; the same cues may also effectively trigger moral disengagement in virtual sceneries that appear to be real (Hartmann & Vorderer, 2010; Hartmann et al., 2010; Klimmt et al., 2006). For example, most people tend to perceive it morally appropriate to do harm to others, the more the harm-doing seems to serve a justified goal (e.g., restoring humanity), the more the consequences are neglected or portrayed in a aesthetically made-up way, the more the victim is perceived as non-human (dehumanization), and the more they attribute the cause of their harm-doing to others (e.g., following orders, blaming the victim). Although systematic content-analyses are rare (Smith et al., 2003), it seems that in most violent video games users also fight for a justified purpose (e.g., saving the world) against aliens, uniform soldiers, or other dehumanized enemies. Often, users have to follow orders from a commander. While the immediate consequences of virtual violence are depicted (e.g., enemies scream and fall to the ground), they are often aesthetically made up (disturbing aspects like ongoing suffering or pain are barely depicted). Accordingly, although users may tend to experience virtual violence as real while processing the game within an experiential mode, they may not feel guilty about harming others, because the game frames their violent actions as appropriate. Thus, users may morally disengage from virtual violence even if the harm-doing felt real.

Furthermore, users may also occasionally recall that "this is just a game" to disengage from morally problematic situations. Although direct empirical evidence to support this claim does not exist to date, general research related to users' distancing strategies (Wirth & Schramm, 2008; Konijn & ten Holt, 2011; Cupchik, 2002) would suggest that recalling the genuine artificiality of the depicted violence increases emotional detachment, because the depicted violence appears more artificial and

less relevant. Accordingly, it seems plausible that violent video game actions also appear more artificial and less relevant, and also less connected to morality, the more users are aware that these actions are just virtual or part of a game.

Taken together, moral disengagement is supposed to affect users' intuitive moral judgments of virtual violence. Despite of the apparent reality established through experiential processing, users may perceive their violent actions as appropriate as long as moral disengagement cues successfully disentangle their actions from their normative standards. In this case, players may enjoy their seemingly real violent actions (Hartmann & Vorderer, 2010). However, violent video games sometimes feature situations that lack moral disengagement cues; for example, if users need to conduct a massacre among terrified civilians in "Call of Duty – Modern Warfare 2", or if they accidentally shoot innocent civilians in the mission of other first-person shooter games. In this case, virtually violent actions may conflict with users' moral standards while they process the game within an experiential mode (at least, if they normally deem such actions inappropriate). If such norm violations occur, users may feel intuitively guilty (Hartmann et al., 2010). In this case, they may tend to process the game within a rational mode in order to regulate their noxious moral gut feelings. Rational processing may increase psychical distance and, thus, may diminish noxious emotions. However, if users engage too intensively in rational processing, they may also diminish their positive emotional responses resulting from the "apparent reality" induced by the game. Accordingly, users may only occasionally break the apparent reality in order to regulate noxious emotions like intuitive feelings of guilt.

Conclusion

The present chapter aimed to illustrate the experience of virtual violence among users of violent video games. I approached the topic from a media-psychological perspective. Based on cognitive-experiential self-theory (Epstein, 1994), I argued that users may experience virtual violence differently, depending on whether they primarily process it within their rational or experiential system. I argued that users are likely to process violent video games primarily within their experiential system. While processing virtual violence in an experiential mode, a sufficiently natural sensory stimulation provided by the game may give rise to a feeling that the depicted virtual violence against other characters is "really happening". Accordingly, with ever more realistic displays of violence provided by video games, players may be prone to experience virtual violence as apparently real and morally significant while playing. This may explain why users occasionally feel guilty about their violent actions in a video game, like hurting a child or shooting innocent civilians. Still, most users enjoy their virtual violent actions rather than feeling bad

about them. Personality characteristics, features of the game, and parallel rational processing may account for this effect.

For example, less empathetic users may be less troubled by seemingly real virtual violence. In addition, violent video games may frequently embed moral disengagement cues (e.g., fighting in order to save the world) that could allow even more sensitive users to conduct seemingly real violent action without a violation of their moral standards. A growing body of empirical studies supports these arguments (Hartmann & Vorderer, 2010; Hartmann et al., 2010; Whitty et al., 2011). Furthermore, users may also rationally process virtual violence while playing. This processing likely makes users aware of the genuine artificiality of the depicted violence. Hence, rational processing appears to counter the effect of experiential processing; it increases users' psychical distance to the game-play. To the extent video game users continue to process the violence rationally while playing, they may establish a cognitive 'background layer' that frames the violent action as 'not real' or 'just a game' (Klimmt et al., 2006; Soto et al., 2010). This knowledge may dampen the experienced moral significance of virtual violence as well as users' responses to violent conduct that they normally would deem inappropriate. However, users may be prone to only emphasize rational processing while playing when this seems really necessary; for example, if they seek to regulate noxious moral states in order to maintain their entertainment experience.

Although the present approach builds on empirically well supported psychological theories (CEST, moral disengagement), and is in line with a growing body of more specifically related media-psychological findings, the presented claims remain hypothetical inasmuch as they have not been directly empirically tested, yet. Accordingly, it seems important to study more systematically how users' experience of virtual violence differs depending on experiential or rational processing. Such an endeavor seems relevant for several reasons. Understanding the way how users subjectively experience virtual violence while playing promises to substantiate the discussion about whether virtual violence is right or wrong (Luck, 2009). For example, if users are indeed prone to experience their violent actions as something real while playing, the intentions underlying their behavior may be morally doubtful; or at least morally more problematic than if they would be continuously and thoroughly aware of the illusionary character of virtual violence. Furthermore, research about users' experiences of virtual violence promises to enrich the long-lasting discussion about the impact of virtual violence on aggression (Anderson et al., 2010). It seems plausible that virtual violence affects users differently, depending on how they experience it. Finally, a better understanding of how users experience virtual violence may also contribute to entertainment research (e.g., Hartmann & Vorderer, 2010). More specifically, related studies may help to explain why – and under which conditions – users enjoy virtual violence rather than feeling repelled by it. Taken together, it seems valuable to take a closer look at video game users' experiential and rational processing of virtual violence in the future.

Notes

1 Still, it has to be noted that the sensory stimulation provided by contemporary video games is far away from a perfect sensory simulation of reality. For example, almost all video game systems primarily provide only visual and audio stimulation. Only some systems provide crude forms of haptical feedback (like a buzzing controller). The display of three-dimensional depth does usually not build on stereoscopic information, as compared to more advanced virtual reality environments. None of the existing systems provides sensory information related to taste or smell. Newer systems like Nintendo's Wee or XBOX Kinetic track the user behaviour and allow for a more natural user input and an improved coupling of user input and system feedback. However, not all user behaviour is tracked; e.g., users' head movements do not translate into changes of the visual display, etc. (like in more advanced virtual environments). Although the video game market has seen a continuous progress towards more natural displays and input devices of video game systems over the last decades, the difference between the sensory stimulation provided in the real world and the one provided by today's video game systems is still obvious.

2 The concept "psychical distance" has been discussed in (psychological) research on literature and art. I use the term in that sense. However, the concept bears striking similarities with the more recent and more general social-psychological theory of "psychological distance" (see for an overview Trope & Liberman, 2010). According to this theory, people construe things that are perceived as more removed from direct experience (i.e., from the sensation that it happens to their self in the "here and now") in more abstract terms (and vice versa). Things may be perceived as close or distant to direct experience on four dimensions; on a temporal, spatial, social, and hypothetical dimension. The last dimension seems most strongly linked to media illusions, because it deals with how likely a target event is to happen, or how close it is to reality, as construed by the perceiver. Studies by Trope and colleagues have shown that abstract concepts are cognitively associated with concepts of hypotheticality more strongly than with concepts that relate to reality; in addition, more concrete concepts are associated with concepts that relate to reality more than with concepts that relate to hypotheticality. Furthermore, cues representing hypothetical, unlikely events are cognitively associated with more abstract concepts. Although these findings have not been adapted to the field of media exposure, yet, they may imply that a user's perception of a media illusion in more abstract terms (i.e., as a media illusion and an unlikely thing to really happen) increases psychological distance and, therefore, frames the depicted events to be personally rather irrelevant to the self (and also as morally less significant). However, if users focus on the concrete and seemingly real things displayed as part of the media illusion (e.g., visual displays of people, actions), psychological distance may be reduced and personal and moral significance increased. This assumption that can be derived from the construal-level theory of psychological distance would be in line with the arguments made in the present chapter.

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8 Babies versus Bogeys

In-Game Manipulation of Empathy in Violent Video Games

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Introduction

Ever since digital games were introduced, governmental institutions, parents, pediatricians, educators, and scholars have been worrying about the moral implications and potential harmful effects of such games. Violent story elements and violent graphics in particular have been considered morally adverse and increasingly do so given their highly realistic representations in virtual game worlds due to today's sophisticated technology of 'creating reality' in what is not (cf. Hoorn, in press). Moreover, such virtualities have the power to create user experiences that are hard to discern from experiences in response to real events as processed in the human system (cf. Murray, 2008; Konijn, Walma van der Molen, & van Nes, 2009; Konijn & Ten Holt, 2011). In the end, users may get habituated to the intense graphics such that they become less responsive to the real event would it occur (e.g., Bartholow, Bushman, & Sestir, 2006). Therefore, many are worried about the moral implications of violent video games in particular, while acknowledging the high potential of video games and interactive media for learning and development and increasing well-being in general. Obviously, what can be used for good purposes can also be applied for ethically less preferred objectives (cf., Bellman & Flanagan, 2010; Gee, 2007; Ferguson, 2010).